



UNITED STATES PATENT AND TRADEMARK OFFICE

Edh

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/766,558 | 01/19/2001 | Quaeed Motiwala | PA000103 | 1085 |
| 23696 | 7590 | 05/19/2005 | EXAMINER | |
| Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714 | | | LIU, SHUWANG | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2634 | |

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/766,558

Applicant(s)

MOTIWALA ET AL.

Examiner

Shuwang Liu

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the appeal brief filed on 02/22/05, PROSECUTION IS HEREBY REOPENED. New grounds rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2634

2. Claims 1, 2, 4- 6, 8-16, 19, 20, 22-27, 29-31, 33-40 and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Halter (US 6,754,290).

As shown in figures 4-7, Halter. discloses a communication system, a method for processing a frame of data, comprising:

(1) regarding claim 1:

partitioning said frame of data into at least a first and second portions of data symbols (100 in figure 5, 300 in figure 6 , 400 in figure 7, column 4, line 64-67 and column 5, lines 45-54 and claim 1);

assigning a first channel element to demodulate data symbols of said first portion of data symbols (310.0 in figure 6 and 410.0 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236); and

assigning a second channel element to demodulate data symbols of said second portion of data symbols (310.1 in figure 6 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236) .

(2) regarding claims 2, 20, and 25:

demodulating said first and second portions of data symbols by correspondingly said first and second channel elements (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236).

(3) regarding claim 5:

partitioning said frame of data into a plurality of portions of data symbols (100 in figure 5, 300 in figure 6 , 400 in figure 7, column 4, line 64-67 and column 5, lines 45-54 and claim 1);

assigning a plurality of channel elements to demodulate data symbols of correspondingly said plurality of portions of data symbols (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236)

(4) regarding claim 6:

demodulating said plurality of portions of data symbols by correspondingly said plurality of assigned channel elements (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236).

(5) regarding claim 12:

partitioning each of said plurality of frames of data into a plurality of portions of data symbols (100 in figure 5, 300 in figure 6 , 400 in figure 7, column 4, line 64-67 and column 5, lines 45-54 and claim 1);

assigning a plurality of channel elements to each of said plurality of frames of data to demodulate data symbols of correspondingly said plurality of portions of data symbols of each of said plurality of frames of data (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236).

(6) regarding claims 16 and 30:

means for partitioning said frame of data into a plurality of portions of data symbols (100 in figure 5, 300 in figure 6 , 400 in figure 7, column 4, line 64-67 and column 5, lines 45-54 and claim 1);

means for assigning a plurality of channel elements to demodulate data symbols of correspondingly said plurality of portions of data symbols (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236).

(7) regarding claim 31:

means for demodulating said plurality of portions of data symbols by correspondingly said plurality of assigned channel elements (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236).

(8) regarding claim 36:

means for partitioning each of said plurality of frames of data into a plurality of portions of data symbols (100 in figure 5, 300 in figure 6 , 400 in figure 7, column 4, line 64-67 and column 5, lines 45-54 and claim 1);

means for assigning a plurality of channel elements to each of said plurality of frames of data to demodulate data symbols of correspondingly said plurality of portions of data symbols of each of said plurality of frames of data (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236).

(9) regarding claim 40:

Art Unit: 2634

means for demodulating the data symbols in each of said plurality of portions of data symbols of each of said plurality of frames of data correspondingly by said plurality of assigned channel elements (310.0 and 310.1 in figure 6 and 410.0 and 410.1 in figure 7, it is inherent that the MAP decoder performs a demodulation, for example, see column 2, lines 50-63 of US 6,625,236).

(10) regarding claims 9-11, 13-15, 23, 24, 26, 27, 34, 35, 37-39:

wherein the number of said plurality of portions of data symbols is based on a data rate of data symbols of said frame of data as recited in claims (column 5, lines 40-45).

(11) regarding claims 4, 8, 19, 22, 29, 33 and 43:

further comprising writing to, and subsequently reading from, demodulated data symbols from said first and second channel elements, a RAM in accordance with a deinterleaving function in said communication system. (column 8, lines 34-43)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 7, 17, 18, 21, 28, 32, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halter (US 6,064,662) in view of Kawable (EP0998052).

Halter et al. discloses all of the subject matter as described above except for specifically teaching,

Regarding claims 3, 7, 17, 18, 21, 28, 32, 41 and 42, receiving said frame of data via a radio frequency receiver front end; correlating with at least a data symbol in said frame of data in accordance with timing of at least one assigned finger; and using a result of said correlating in said first and second channel elements for said demodulating.

Kawable, in the same field of endeavor, teaches a radio frequency receiver front end (201), correlating (208) in accordance with timing of at least one assigned finger and demodulating (215, 216 and 217) as recited in claims.

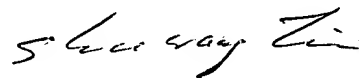
It is well known that the CDMA system must have the front end, correlator and demodulator in order to recover the received information. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the basic elements, such as the front end, correlator and demodulation, as taught by Kawable et al. in the receiver of Halter in order to allow the receiver to demodulate spread spectrum signal with high data rate and bandwidth efficient.

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is 571 272-3036. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shuwang Liu
Primary Examiner
Art Unit 2634

May 11, 2005